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ABSTRACT

Creative production of women as measured by their performance on six criterion task activities was studied with university women. The Something About Myself (SAM) inventory (Khatena & Torrance) was utilized as a pre- and post-test instrument to assess the perceived level of creativity. The self-report inventory resulted in a total creative perception index for each individual, reflecting a composite of six factor scores: environmental sensitivity, initiative, self-strength, intellectuality, individuality, and artistry. Both experimental and control groups participated in six criterion task activities. The experimental group had two creative perception training sessions, and 20 individual training activities designed to stimulate inquiry, flexibility, fluency, and other creative abilities. Results appeared to indicate that freshmen need exposure to more abstract concepts and experiences. The senior women were more responsible for bringing about changes in procedures or organizations, and took more initiative in music and drama. The 20 creative training activities were found to stimulate creativity. Senior women scored higher on the individuality factor than did freshmen, while the experimental group also scored higher than did the control group. Additional findings are discussed. (SW)

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Fostering Creative Behavior Among University Women

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Fostering Creative Behavior Among University Women

ABSTRACT

Limited research concerning creativity in women suggests areas of concern for people in leadership positions. Provisions for early detection of creativity and same sex role models is critical if women are to find creative expression within the context of education. This study was designed to ascertain the potential influence of criterion task activities among university women and between experimental and control groups. A major aspect of this study focused on the creative production of women as measured by their performance on criterion task activities directly related to the Something About Myself (SAM) inventory. Findings of this study pointed out the need for university women being encouraged to become more resourceful, more versatile, and more willing to take risks. University courses in creativity must be offered to all undergraduate women if we expect to see evidence of creative productive women.

Fostering Creative Behavior Among
University Women

Facilitating the development of creativity in women is an encumbrance that continues to blight the educational system in the 1980's. It has been substantiated that more research has been conducted concerning the creativity of men than women; however, even the limited research concerning creativity in women suggest areas that concern those in leadership positions.

An insightful perspective of the creative productive woman has been presented by Bruch (1979), as they are related to the characteristics of creatives, described earlier by Barron (1963) and MacKinnon (1968). Bruch noted that the creative-productive woman preserves those aspects of the creative personality which are feminine and which promote productivity; and the creative-productive woman affects a degree of assertiveness and independence of judgment. The creative-productive woman retains a greater degree of autonomy and reflects a greater openness to honesty in human relationships so that she is more able to risk atypical patterns of living (Bruch, 1979, pp. 384-385).

Fleming and Hollinger (1981) noted, however, that this creative-productive woman must be identified early and be provided role models in non-traditional activities. Provisions of early detection and same sex role models is critical if these women are to find creative expression within the context of education. Similar findings were previously corraborated by Blaubergs (1978). Findings noted by Blaubergs (1978) indicated that homemakers with degrees were lower in self-esteem and sense of personal competence than degreed women that were gainfully employed. The same homemakers also expressed the most concern for self-identity; lacking a sense of challenge, and creative involvement. Could these women be exhibiting characteristics noted by Fox (1981)? Girls, according to Fox (1981), are more likely than boys to be encouraged by parents to avoid, rather than seek out challenges.

Three major barriers that confront gifted females are sex role stereotyping, lack of self-confidence, and being afraid of success (Schwartz, 1980). These barriers are amplified through text books, conflicts between expectations of being gifted and being female, and social pressures experienced in education. "Women have intellectual and creative potential; they have intellectual abilities. To use them effectively they need stimulation, self-confidence, and feelings of independence. Even more they need recognition acceptance and opportunity " (Schwartz, 1980, p. 116).

Earlier Wolleat (1979) had extrapolated propositions from related research to explain why gifted females perhaps fail to achieve at a predicted level. She noted the following as unique characteristics and needs of gifted females:

- Conflict of being socialized for one role and denied access to certain experiences to prepare her for a desired role; may lack confidence in ability to pursue traditional male fields.
- Suppressed performance because it may be viewed as unfeminine.
- Choosing a career with less preparation time even though it may not have personal career predilection.
- Circumvented career planning until marriage and family plans are resolved.
- Less confident of abilities than potential suggests.
- Likely to attribute success to external factors and failures to lack of ability.

These characteristics and needs had previously been noted by Simpson (1971) with the implication that an independent sense of self, with a resulting sense of self-esteem, can only evolve when the individual alone sets out to attain goals, and with reasonable frequency, achieves them (Simpson, 1977, p. 366). She further noted that a self-actualizing woman like Eleanor Roosevelt not only achieved because of established goals, but because of her actively emulating her father's role. Khatena (1982) asserted that this type of woman

is one who can "direct her own unique talents toward leadership in the affairs of men, moving as if it were into stages of creativity, self-actualization, ego-integrity, post-conventional morality, and commitment" (Khatena, 1982, p. 234).

Bruch (1979) has designated specific aspects of the creative personality which may be utilized to enhance creative development for women. The issues she noted were: Independence-interdependence, aesthetic sensitivity and intuition, warmth, sensitivity to problems and gaps, and blocks to creativity. These issues are quite similar to the creative orientation factors identified by Khatena's (Khatena & Torrance, 1976) Something About Myself (SAM) creative perception inventory. The SAM factors have been identified as environmental sensitivity, initiative, intellectuality, self-strength, individuality, and artistry.

Procedures

This study was undertaken to ascertain the potential influence of six criterion task activities among freshmen and senior university women as well as between experimental and control groups. The Something about Myself (SAM) inventory (Khatena & Torrance, 1976) was utilized as a pre- and posttest instrument to assess the perceived level of creativity for these women. A major aspect of this study focused on the creative production of women as measured by their performance on the six criterion task activities directly related to the SAM inventory. The self-report inventory resulted in a total creative perception index for each individual, reflecting a composite of the six factor scores identified by Khatena (Khatena & Torrance, 1976) as: Environmental sensitivity, initiative, self-strength, intellectuality, individuality, and artistry. The SAM inventory required about ten minutes to administer. Results were scored according to manual instructions, i.e., count the number of responses and credit "1" for each response.

Students were selected from an assortment of classes representing varied schools of study considered to be a representative sample of the university population. Control and experimental groups were then randomly assigned according to participating classes.

The control and experimental groups had different experiences between the pre- and posttests of SAM and the six criterion tasks. The control groups participated in pre- and posttests and the six criterion task activities developed by the experimenter, that were directly related to the six factors represented in the inventory. These activities were related to specific loading factors, i.e., humor, constructive criticism, and creation of a product as noted in the Khatena and Torrance (1976) technical manual. For example, students were requested to write a caption for a cartoon, write constructive criticism for a "friend" in trouble and create a poem based on the Haiku pattern. The participants were not told the specific purpose of the six activities. Each activity was rated by a selected panel of trained experts from the university. The experts utilized a five-point scale, similar to the Likert scale in rating the activities. Captions for the cartoons were rated relative to the level of humor, suggestions for a "friend" relative to level of constructive criticism and the poem was evaluated on the basis of imaginative creation. Each of the expert judges scored the activities independently. Interrater reliability coefficients for the three judges were found to be between .70 and .73.

The experimental groups had two (1½-2 hours) creative perception training sessions, including pre-and posttests, the six criterion tasks previously decribed, and additionaly, 20 individual training activities. These 20 training activities varied in length, procedure and relationship to varied strategies (Noller, Parnes, & Biondi, 1976; Treffinger, 1980, Torrance, 1970; Eberle, 1971; Khatena, 1978; Feldhusen & Treffinger, 1977). These activities are

presumably not only vital to the heightening of self-awareness, but to the development of experiences through which imagination and judgment are fueled. The 20 activities were designed to stimulate and/or promote inquiry, flexibility, questioning strategies, attribute listing, morphological analysis, synectics, fluency, originality, and tolerance for ambiguity.

Results

Environmental Sensitivity

The 2x2 analysis of variance (ANOVA) yielded a significant interaction between grade (freshmen versus seniors) and group (experimental versus control), F (1,136)= 10.32, $p < .01$. The freshmen control group (mean = 2.80) scored higher on the environmental sensitivity factor than the freshmen experimental group (mean = 2.11), but the senior experimental group (mean = 2.63) scored higher than the senior control group (mean = 2.09). There were no significant main effects (grade and group).

Insert Table 1 here

Insert Table 2 here

Initiative

According to the 2x2 ANOVA for initiative, a significant difference was found between all freshmen women (mean = 2.90) and all senior women (mean = 3.26), F (1,136) = 4.00, $p < .05$. There was no significant difference between the means of the experimental (mean = 3.09) and control (mean = 3.07) groups. Senior women scores significantly higher on the initiative factor of SAM than did their freshmen counterparts.

Insert Table 3 here

There was also a significant interaction between the group and grade means, F (1,136) = 8.76, $p < .01$. The freshmen experimental group (mean = 3.17) scored higher on initiative than the freshmen control group (mean = 2.63), but the senior control group (mean = 3.51) scored higher on this factor than did the senior experimental group (mean = 3.00).

Insert Table 4 here

Self-Strength

For the factor of self-strength, no significant differences were found between the main effects (grade and group). In addition, there was no significant interaction.

Intellectuality

There was a significant difference between the experimental group (mean = 3.31) and the control group (mean 2.87) on the intellectuality factor of SAM, F (1,136) = 5.42, $p < .05$. No significant difference existed between the freshmen (mean = 2.99) and senior (mean = 3.20) university women, F (1,136) = 1.27, $p > .05$. No significant interaction was found, F (1,136) = 0.95, $p > .05$.

Insert Table 5 here

Insert Table 6 here

Individuality

There was a significant difference found between all freshmen women (mean = 1.60) and all senior women (mean = 2.36) on the SAM factor of individuality F (1,136) = 20.21, $p < .01$. A significant interaction was also found

F (1,136) = 20.21, $p < .01$. Both the freshmen and senior women (mean = 1.74) scored similarly on this factor, but the senior experimental group (mean = 2.97) scored higher than the freshmen experimental group (mean = 1.46).

Insert Table 7 here

Insert Table 8 here

Artistry

Results of the 2x2 ANOVA revealed there was a significant interaction on the factor of artistry, F (1,136)=4.81, $p < .05$. The senior experimental group (mean = 4.00) scored higher on this factor than did the senior control group (mean = 3.51), but the freshman control group (mean = 3.63) scored higher than the freshmen experimental group (mean = 3.49). There were no significant main effects (grade and group).

Insert Table 9 here

Insert Table 10 here

CONCLUSIONS AND IMPLICATIONS

The results of this study indicat that the significant interaction between grade and group categories were attributed to the highest score of the freshmen control group for the environmental sensitivity factor. That group was the most responsive to ideas of others and relating ideas to more concrete experiences seen or heard. It appears from this study that freshmen need exposure to more abstract concepts and experiences, rather than a continued reinforcement of tangible and concrete knowledge.

The senior group did differ significantly from the freshmen group on the initiative factor. The senior women revealed they were more responsible for bringing about changes in procedures or organizations. In addition, these senior women tend to take more initiative in music and drama. Perhaps more awareness provided for freshmen women would stimulate their performance at an earlier period in their educational training. This would ultimately enhance their creativity through initiative and thus aid their creative production.

Differences between the experimental and control groups suggest that the 20 training activities did effect the intellectuality factor. The experimental group enjoyed more challenging tasks, a preference for adventure over routine, and disliked doing things in a prescribed routine. The 20 activities utilizing such attributes as morphological analysis, synectics, originality, tolerance and ambiguity showed these activities did stimulate creativity. This emphasizes the need for implementing similar training activities for more university classes.

Senior women scored higher on the individuality factor than did freshmen, while the experimental group also scored higher than the control group. This seems to indicate that seniors and the experimental group saw themselves as

self-starters, critical of others work and a higher level of endurance. The 20 training activities were instrumental in promoting inquiries, questioning strategies and originality. The data revealed that the senior experimental group was the most receptive to these 20 training activities. It behooves educators to initiate and support the individuality factor of creative behavior earlier in the learning experiences of women.

Again, the senior experimental group indicated a higher level of performance on the artistry factor. This group was the most productive relative to plays, stories, models, carvings, and other literary pieces. The 20 training activities provided impetus to develop fluency, flexibility, originality and tolerance for ambiguity. Freshmen women require earlier facilitation of this factor in order to become more creatively productive.

Overall, these women scored low on the self-strength factor. Findings of this study pointed out the need for university women being encouraged to become more resourceful, more versatile, and more willing to take risks.

As evidenced from this study, creativity can be enhanced if students are provided techniques that have been designed to foster creative behaviors. Courses need to involve more analytical thinking and decision-making on the part of students rather than mere rote memorization.

In conclusion, if we expect universities to produce creative productive women, then course content must either be expanded or altered to substantially reflect these needs. Courses dealing with creativity are generally offered and/or limited to gifted education majors, but it appears the real need lies in creative training for all undergraduate university women.

Table 1

Number(N), Means, and Standard Deviations of University Women (Grade and Group) on the Environmental Sensitivity Factor of SAM

Grade/Group	N	Mean	Standard Deviation
Freshmen:			
Experimental	35	2.11	1.05
Control	35	2.80	0.99
Seniors:			
Experimental	35	2.63	1.31
Control	35	2.09	1.15
Freshman	70	2.46	1.07
Seniors	70	2.36	1.24
Experimental	70	2.37	1.20
Control	70	2.44	1.12

Table 2

2 X 2 ANOVA Summary Table of Freshmen Versus Senior University Women (Grade) and Experimental Versus Control Groups (Group) on the Environmental Sensitivity Factcr of SAM

Source	df	Sum or Squares	Mean Square	F
Group	1	0.18	0.18	0.14
Grade	1	0.35	0.35	0.27
Group X Grade	1	13.21	13.21	10.32*
Within	136	174.05	1.28	
Total	139	187.79		

*Significant at .01 level

Table 3

Number(N), Means, and Standard Deviations of University Women (Grade and Group) on the Initiative Factor of SAM

Grade/Group	N	Mean	Standard Deviation
Freshman:			
Experimental	35	3.17	1.01
Control	35	2.63	1.17
Seniors:			
Experimental	35	3.00	1.08
Control	35	3.51	0.95
Freshman	70	2.90	1.11
Seniors	70	3.26	1.04
Experimental	70	3.09	1.04
Control	70	3.07	1.14

Table 4

2 x 2 ANOVA Summary Table of Freshmen Versus Senior University Women (Grade) and Experimental Versus Groups (Groups) on the Initiative Factor of SAM

Source	df	Sum of Squares	Mean Square	F
Group	1	0.01	0.01	0.01
Grade	1	4.46	4.46	4.00*
Group X Grade	1	9.78	9.78	8.76**
Within	136	151.89	1.12	
Total	139	166.14		

*Significant at .05 level
**Significant at .01 level

Table 5

Number (N), Means, and Standard Deviations of University Women (Grade and Group) on the Intellectuality Factor of SAM

Grade/Group	N	Mean	Standard Deviation
Freshmen:			
Experimental	35	3.11	1.23
Control	35	2.86	1.12
Seniors:			
Experimental	35	3.51	1.07
Control	35	2.89	1.08
Freshmen	70	2.99	1.15
Seniors	70	3.20	1.10
Experimental	70	3.31	1.15
Control	70	2.87	1.08

Table 6

2 x 2 ANOVA Summary Table of Freshmen Versus Senior University Women (Grade) and Experimental Versus Control Groups (Group) on the Intellectuality Factor of SAM

Source	df	Sum of Squares	Mean Square	F
Group	1	6.86	6.86	5.42*
Grade	1	1.61	1.61	1.27
Group X Grade	1	1.21	1.21	0.95
Within	136	172.11	1.27	
Total	139	181.79		

*Significant at .05 level

Table 7

Numbers (N), Means, and Standard Deviations of University Women (Grade and Group) on the Individuality Factor of SAM

Grade/Group	N	Mean	Standard Deviation
Freshmen:			
Experimental	35	1.46	0.70
Control	35	1.74	0.92
Seniors:			
Experimental	35	2.97	1.27
Control	35	1.74	1.01
Freshmen	70	1.60	0.82
Seniors	70	2.36	1.29
Experimental	70	2.21	1.26
Control	70	1.74	0.95

Table 9

Number (N), Means, and Standard Deviations of University Women (Grade and Group) on the Artistry Factor of SAM

Grade/Group	N	Mean	Standard Deviation
Freshmen:			
Experimental	35	3.49	1.01
Control	35	3.63	0.88
Seniors:			
Experimental	35	4.00	0.73
Control	35	3.51	0.74
Freshmen	70	3.56	0.94
Seniors	70	3.76	0.76
Experimental	70	3.74	0.91
Control	70	3.57	0.80

Table 10

2x2 ANOVA Summary Table of Freshmen Versus Senior Women (Grade) and Experimental Versus Control Groups (Group) on the Artistry Factor of SAM

Source	df	Sum of Squares	Mean Square	F
Group	1	1.03	1.03	1.43
Grade	1	1.40	1.40	1.95
Group X Grade	1	3.46	3.46	4.81*
Within	136	97.66	0.72	
Total	139	103.55		

*Significant at .05 level

References

Barron, F. Creativity and Psychological Health. Princeton, N.J.: Van Nostrand Co. Inc., 1963.

Blaubergs, M. Personal studies of gifted females: An overview and commentary. Gifted Child Quarterly, 1978, 22(4), 539-547.

Brown-Azarowicz, M.F. A study of gifted women at George Mason University 1975-1979. Roeper Review. Sept., 1981, 4(1), 35-36.

Bruch, C. B. Counseling girls for the development of creativity. In Colangelo, N. & Zaffrann, R.T. (Eds.). New Voices In Counseling the Gifted. Dubuque, IA.: Kendall/Hunt Publishing Co., 1979, 382-389.

Eberle. R.F. Scamper. Buffalo, N.Y.: D.O.K. Publishers, Inc, 1971.

Feldhusen, J.F. & Treffinger, D.J. Creative Thinking and Problem Solving in Gifted Education. Dubuque, IA: Kendall/Hunt Publishing Co., 1977.

Fleming, E. & Hollinger, C. The multidimensionality of talent in adolescent young women. Journal for the Education of Gifted. Spring 1981, 4(3), 188-198.

Fox, L.H. Preparing gifted girls for future leadership roles. G/C/T, March/ April 1981, 17, 7-11.

Khatena, J. Educational Psychology of the Gifted. New York: John Wiley and Sons, 1982.

Khatena, J. The Creatively Gifted Child. New York, N.Y.: Vantage Press Inc., Publishers, 1978.

Khatena, J. & Torrance, E.P. Manual for Khatena - Torrance Creative Perception Inventory. Chicago, Ill.: Stoelting, 1976.

MacKinnon, D.W. Personality Correlates of Creativity. In Ashner, M.J. and Bish, C.E. (Eds.), Productive Thinking in Education. Washington, D.C.: National Education Association, 1968.

Noller, R.B., Parnes, S.J., & Biondi, A.M. Creative Actionbook. Buffalo, N.Y.: Charles Scribner's Sons, Publishers, 1976.

Schwartz, L.L. Advocacy for the neglected gifted: Females. Gifted Child Quarterly, Summer 1980, 24(3), 113-117.

Simpson, J. Developmental Process Theory as Applied to Mature Women. Gifted Child Quarterly, Fall 1977, 21(3), 359-372.

Torrance, E. P. Encouraging Creativity in the Classroom. Dubuque, IA.: Wm C. Brown Co., Publishers, 1970.

Treffinger, D.J. Encouraging Creative Learning for the Gifted and Talented. Ventura, CA: Ventura County Superintendent of School Office, 1980.

Wolleat, P.L. Guiding the career development of gifted females. In Colangelo N. & Zaffrann, R.T. (Eds.). New Voices in Counseling the Gifted. Dubuque, IA: Kendall/Hunt Publishing Co., 1979, 331-345.